In The Claims:

1. (Currently Amended) A system for performing a concurrent context switching procedure, comprising:

a main context that is configured to support system execution tasks;

a first concurrent context that supports first concurrent procedures;

a second concurrent context that supports second concurrent procedures;

a context control module that controls switching procedures between said main context, said first concurrent context, and said second concurrent context; and

a processor that ~~sequentially~~ executes current processes in an uninterrupted sequence ~~in a non-idle state~~ while said context control module simultaneously preloads isochronous context data needed for executing subsequent processes.

2. (Original) The system of claim 1 wherein said first concurrent context and said second concurrent context support isochronous processes for handling time-sensitive isochronous information.

3. (Original) The system of claim 1 wherein said concurrent context switching procedure occurs in one of a computer device, a set-top box, an electronic network device, and a consumer electronic device.

4. (Original) The system of claim 1 wherein said system for performing said concurrent context switching procedure is part of an electronic network that is implemented according to an IEEE 1394 serial bus standard.

5. (Original) The system of claim 1 wherein a picokernel module manages said context control module to perform said concurrent context switching procedure.

6. (Original) The system of claim 1 wherein said first concurrent procedures include executing a first process in said first concurrent context while concurrently loading a second process into said second concurrent context, and wherein said second concurrent procedures include executing said second process in said second concurrent context while concurrently loading a third process into said first concurrent context.

7. (Original) The system of claim 6 wherein said context control module alternately repeats additional first concurrent procedures and additional second concurrent procedures after executing said first process and said second process to sequentially support additional processes.

8. (Original) The system of claim 1 wherein said main context includes a main register set, said first concurrent context includes a first concurrent register set, and said second concurrent context includes a second concurrent register set.

9. (Original) The system of claim 8 wherein said context control module, said main register set, said first concurrent register set, and said second concurrent register set are included in a central-processing unit of an electronic device.

10. (Original) The system of claim 8 wherein each of said main register set, said first concurrent register set, and said second concurrent register set includes a series of general purpose registers, a program counter register, and a status register.

11. (Original) The system of claim 9 wherein first information corresponding to a first process is preloaded into said first concurrent register set while said system execution tasks are being executed by using said main register set of said main context.

12. (Original) The system of claim 11 wherein said context control module causes a context selector to switch to said first concurrent register set of said first concurrent context in response to an isochronous exception, said isochronous exception being triggered by an isochronous clock signal generated from a network interface to said context control module.

13. (Original) The system of claim 12 wherein said first process is executed in said first concurrent context while said context control module concurrently causes a context DMA device to load second information corresponding to a second process into said second concurrent register set of said second concurrent context.

14. (Original) The system of claim 13 wherein said context control module causes said context selector to switch to said second concurrent register set of said second concurrent context when said first process has been executed.

15. (Original) The system of claim 14 wherein said second process is executed in said second concurrent context while said context control module concurrently causes said context DMA device to load third information corresponding to a third process into said first concurrent register set of said first concurrent context.

16. (Original) The system of claim 15 wherein said context control module causes said context selector to switch to said first concurrent register set of said first concurrent context when said second process has been executed.

17. (Original) The system of claim 16 wherein said third process is executed in said first concurrent context.

18. (Original) The system of claim 17 wherein said context control module causes said context selector to switch to said main register set of said main concurrent context when said third process has been executed.

19. (Original) The system of claim 17 wherein said context control module continues to perform said concurrent context switching procedure by alternating between said first concurrent context to support said first concurrent procedures and said second concurrent context to support said second concurrent procedures, to thereby sequentially support any additional processes.

20. (Original) The system of claim 18 wherein said context control module loads new first information for said first process into said first concurrent register set, said central-processing unit then returning from said isochronous exception to perform said system execution tasks until a new isochronous exception retriggers said concurrent context switching procedure.

21. (Currently Amended) A method for performing a concurrent context switching procedure, comprising the steps of:

performing system execution tasks in a main context;

performing first concurrent procedures in a first concurrent context;

performing second concurrent procedures in a second concurrent context;

controlling switching procedures between said main context, said first concurrent context, and said second concurrent context by using a context control module; and

executing current processes ~~sequentially~~ with a processor ~~in a non-idle state~~ in an uninterrupted sequence while said context control module simultaneously preloads isochronous context data needed for executing subsequent processes.

22. (Original) The method of claim 21 wherein said first concurrent context and said second concurrent context support isochronous processes for handling time-sensitive isochronous information.

23. (Original) The method of claim 21 wherein said concurrent context switching procedure occurs in one of a computer device, a set-top box, an electronic network device, and a consumer electronic device.

24. (Original) The method of claim 21 wherein said system for performing said concurrent context switching procedure is part of an electronic network that is implemented according to an IEEE 1394 serial bus standard.

25. (Original) The method of claim 21 wherein a picokernel module manages said context control module to perform said concurrent context switching procedure.

26. (Original) The method of claim 21 wherein said first concurrent procedures include executing a first process in said first concurrent context while concurrently loading a second process into said second concurrent context, and wherein said second concurrent procedures include executing said second process in said second concurrent context while concurrently loading a third process into said first concurrent context.

27. (Original) The method of claim 26 wherein said context control module alternately repeats additional first concurrent procedures and additional second concurrent procedures after executing said first process and said second process to sequentially support additional processes.

28. (Original) The method of claim 21 wherein said main context includes a main register set, said first concurrent context includes a first concurrent register set, and said second concurrent context includes a second concurrent register set.

29. (Original) The method of claim 28 wherein said context control module, said main register set, said first concurrent register set, and said second concurrent register set are included in a central-processing unit of an electronic device.

30. (Original) The method of claim 28 wherein each of said main register set, said first concurrent register set, and said second concurrent register set includes a series of general purpose registers, a program counter register, and a status register.

31. (Original) The method of claim 29 wherein first information corresponding to a first process is preloaded into said first concurrent register set while said system execution tasks are being executed by using said main register set of said main context.

32. (Original) The method of claim 31 wherein said context control module causes a context selector to switch to said first concurrent register set of said first concurrent context in response to an isochronous exception, said isochronous exception being triggered by an isochronous clock signal generated from a network interface to said context control module.

33. (Original) The method of claim 32 wherein said first process is executed in said first concurrent context while said context control module concurrently causes a context DMA device to load second information corresponding to a second process into said second concurrent register set of said second concurrent context.

34. (Original) The method of claim 33 wherein said context control module causes said context selector to switch to said second concurrent register set of said second concurrent context when said first process has been executed.

35. (Original) The method of claim 34 wherein said second process is executed in said second concurrent context while said context control module concurrently causes said context DMA device to load third information corresponding to a third process into said first concurrent register set of said first concurrent context.

36. (Original) The method of claim 35 wherein said context control module causes said context selector to switch to said first concurrent register set of said first concurrent context when said second process has been executed.

37. (Original) The method of claim 36 wherein said third process is executed in said first concurrent context.

38. (Original) The method of claim 37 wherein said context control module causes said context selector to switch to said main register set of said main concurrent context when said third process has been executed.

39. (Original) The method of claim 37 wherein said context control module continues to perform said concurrent context switching procedure by alternating between said first concurrent context to support said first concurrent procedures and said second concurrent context to support said second concurrent procedures, to thereby sequentially support any additional processes.

40. (Original) The method of claim 38 wherein said context control module loads new first information for said first process into said first concurrent register set, said central-processing unit then returning from said isochronous exception to perform said system execution tasks until a new isochronous exception retriggers said concurrent context switching procedure.

41. (Original) The method of claim 40 wherein said central-processing unit enters a stall condition when a load procedure is not completed before said context control module attempts a switch procedure to a new concurrent context.

42. (Original) The method of claim 21 wherein said context control module controls a select operation, a load operation, and a switch operation, and wherein said concurrent context switching procedure utilizes one or more supplemental concurrent contexts in addition to said first concurrent context and said second concurrent context.

43. (Currently Amended) A computer-readable medium comprising program instructions for performing a concurrent context switching procedure by performing the steps of:

performing system execution tasks in a main context;

performing first concurrent procedures in a first concurrent context;

performing second concurrent procedures in a second concurrent context;

controlling switching procedures between said main context, said first concurrent context, and said second concurrent context by using a context control module; and

executing current processes ~~sequentially~~ with a processor in an uninterrupted sequence ~~in a non-idle state~~ while said context control module simultaneously preloads isochronous context data needed for executing subsequent processes.

44. (Original) A system for performing a concurrent context switching procedure, comprising:

means for performing system execution tasks in a main context;

means for performing first concurrent procedures in a first concurrent context;

means for performing second concurrent procedures in a second concurrent context; and

means for controlling switching procedures between said main context, said first concurrent context, and said second concurrent context.

45. (New) A central processing unit for performing a concurrent context switching procedure, comprising:

a main context register that stores system data for a main context for supporting system execution tasks;

a first concurrent context register that is preloaded with first isochronous data for a first concurrent context;

a second concurrent context register that is preloaded with second isochronous data for a second concurrent context; and

a context control module that controls switching procedures between said main context register, said first concurrent context register, and said second concurrent context register, said context control module alternately preloading additional sets of said first isochronous data into said first concurrent context register and additional sets of said second isochronous data into said second concurrent context register for sequentially executing subsequent isochronous processes.

46. (New) The system of claim 45 wherein said first concurrent context register and said second concurrent context register store isochronous data, said first concurrent context register and said second concurrent context register storing no program instructions.

47. (New) The system of claim 45 wherein said first concurrent context register and said second concurrent context register include integer register values, program counter values, and co-processor zero register values.

48. (New) The system of claim 45 wherein said context control module utilizes said first concurrent context register and said second concurrent context register in an alternating manner to sequentially support any number of said subsequent isochronous processes.

49. (New) The system of claim 45 further comprising a data cache that receives and temporarily stores said system data, said first isochronous data, said second isochronous data, and said additional sets of isochronous data for preloading into corresponding ones of said main context register, said first concurrent context register, and said second concurrent context register.

50. (New) The system of claim 49 further comprising an execution unit and an instruction cache that is dedicated for receiving and storing program instructions that are executed by said execution unit to utilize pre-loaded context data stored in said main context register, said first concurrent context register, and said second concurrent context register.

51. (New) The system of claim 49 further comprising a context DMA that said context control module instructs to preload said system data, said first isochronous data, said second isochronous data, and said additional sets of isochronous data from said data cache into corresponding ones of said main context register, said first concurrent context register, and said second concurrent context register.

52. (New) The system of claim 44 wherein said central processing unit executes said current processes in an uninterrupted sequence without said central processing unit entering into an idle condition.